WHAT IS CLAIMED IS:

1. An instrument for constructing arrays of tissue in a recipient block, the instrument comprising:

a punch platform carriage displaceable in the Z axis;

a punch platform mounted on said punch platform carriage and displaceable between at least first and second positions with respect to said punch platform carriage, said positions precisely defined by détentes or stops;

at least first and second punch units mounted on said punch platform, each punch unit comprising a punch and a cooperating stylet;

means for holding said recipient block;

means for selectively repositioning said recipient block and punch platform in X and Y axis with respect to each other;

means for guiding the movement of at least one of said recipient block and punch platform carriage in the Z axis relative to each other;

wherein said first punch unit comprises a recipient punch and associated stylet and said second punch unit comprises a donor punch and associated stylet, said donor punch having an internal diameter greater than the recipient punch,

wherein when said punch platform is in said first position said recipient punch is in position over said recipient block holder and in alignment with said Z axis, and when said punch platform is in said second position said donor punch is in position over said recipient block holder and in alignment with said Z axis.

2. An instrument as in claim 1, wherein said punch platform is pivotable about a horizontal (X-) axis between at

least first and second positions with respect to said punch platform carriage, with the punches extending radially out from the axis of rotation.

3. An instrument as in claim 1, wherein said punch platform is pivotable about a vertical (Z-) axis between at least first and second positions with respect to said punch platform carriage, with the punches oriented parallel to the axis of rotation.

4. An instrument as in claim 1, wherein said punch platform is linearly displaceable along a horizontal guide between at least first and second positions with respect to said punch platform carriage.

5. An instrument as in claim 1, wherein said détentes or stops are mechanical détentes or stops.

6. An instrument as in claim 1, further comprising means for adjusting the limits of travel of the punch platform with respect to at least one of the détentes or stops.

7. An instrument as in claim 1, further comprising a removable bridge for supporting a donor block over the recipient block or vice-versa.

8. An instrument as in claim 1, wherein said stylet and punch have proximal and distal ends, the distal ends for contacting said blocks, when the distal end of said stylet when in the fully extended position extends beyond the distal end of said punch.

9. An instrument as in claim 8, further including a discontinuity circuit, wherein the electrical continuity of said circuit when said stylus is in the fully extended position is different than when said stylet is not in the fully extended position.

10. An instrument as in claim 1, further including electromagnetic, hydraulic or pneumatic actuator means for displacing said punch platform between said first and second positions.

11. An instrument as in claim 1, further including spring means arranged to hold the punch platform firmly against one or more of said détentes or stops.

12. An instrument as in claim 1, wherein at least three punches are mounted on said punch platform.

13. An instrument as in claim 2, wherein at least three punches are mounted on said punch platform.

14. An instrument as in claim 3, wherein at least three punches are mounted on said punch platform.

15. An instrument as in claim 4, wherein at least three punches are mounted on said punch platform.

16. An instrument as in claim 1, including means for holding multiple recipient blocks.

17. An instrument for constructing a tissue array, said instrument comprising:

means for positioning a first block of material;

a pivotable member pivotable between at least first position and a second position;

support means for selectively positioning said pivotable member in the X and Y axis relative to said means for positioning said block of material;

a recipient punch mounted on said pivoting member, said recipient punch including a recipient punch tube and a recipient stylet guided within said recipient punch tube, said recipient stylet having an outer diameter approximating that of the recipient punch tube inner diameter;

a donor punch mounted on said pivoting member, said donor punch including a donor punch tube and a donor stylet guided within said donor punch tube, said donor stylet having an outer diameter approximating that of the donor punch tube inner diameter;

wherein when said pivotable member is in said first position said recipient punch is in an operating position, and wherein when said pivotable member is in said second position said donor punch is in an operating position.

18. An instrument for constructing arrays of tissue in a recipient block, the instrument comprising:

a punch platform carriage displaceable in the Z axis;

a punch platform mounted on said punch platform carriage and displaceable between at least first and second positions with respect to said punch platform carriage, said positions precisely defined by détentes or stops;

a flexible hose;

at least first and second punches mounted on said punch platform, each punch having a hollow center channel in communication with said flexible hose;

fluid under pressure connected to said flexible hose via a valve;

pressure sensing means connected to said flexible hose;

means for holding said recipient block;

means for selectively repositioning said recipient block and punch platform in X and Y axis with respect to each other;

means for guiding the movement of at least one of said recipient block and punch platform carriage in the Z axis relative to each other;

wherein said donor punch having an internal diameter greater than the recipient punch,

wherein when said punch platform is in said first position said recipient punch is in position over said recipient block holder and in alignment with said Z axis, and when said punch platform is in said second position said donor punch is in position over said recipient block holder and in alignment with said Z axis.